M/027/007

State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

Michael O. Leavitt
Governor

Dianne R. Nielson, Ph.D.
Executive Director

Don A. Ostler, P.E.
Director

288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
(801) 538-6146 Voice
(801) 538-6016 Fax
(801) 536-4414 T.D.D.

July 12, 1996

Mr. Ed King
Jumbo Mining Co.
6305 Fern Spring Cove
Austin, TX 78730

Dear Mr. King:

Subject: June 10, 1996 letter

We have reviewed your letter of June 10, 1996, responding to our earlier letter which requested Jumbo to correct the situation at the inactive leach pads, at the Drum Mine, which was allowing a discharge of contaminants.

The Division of Water Quality (DWQ) does not agree with several points you have raised in your letter, and we have stated our position in previous letters. In your most recent letter you state that any discharge would not affect "waters of the state". These are defined in the Utah Water Quality Act (UCA 19-5-101) as including "accumulations of water, surface and underground, natural or artificial...", which would include both the perched aquifer at the mine site and the deep regional aquifer under the site.

The presence of cyanide in the perched ground water indicates that contaminants have been discharged at the site, and the deteriorating condition of the facilities indicates there is a potential for further releases of contaminants. It is possible that these discharges will not have any effect on beneficial or ecological uses of ground water, but the ground water flow system under the site is not understood well enough to make this assumption. The decrease in levels of contamination observed in the perched aquifer could be due to contaminated water flowing to the deeper regional system and being diluted in the perched system, rather than from degradation of contaminants in place.

There are two possible ways to resolve this issue. Jumbo can either properly close the facilities or manage them so it can be demonstrated there is no significant discharge of contaminants, or you can conduct the necessary studies to demonstrate that the existing situation does not endanger public health or the environment. It has been DWQ's position that closure or appropriate management of the facilities would be a more reliable and cost-effective alternative.

DWQ has only asked for a conceptual plan for site closure which is protective of ground water. We believe that this could be accomplished most economically if it were done at the same time as other reclamation work required by DOGM and BLM. The conceptual plan should be based

on an evaluation of the actual amounts of soluble contaminants remaining in the leach pads, as verified by sampling.

While sampling leach pad runoff as you propose could yield some information on the presence of contaminants, such a sample would be biased towards portions of the pads that have already been leached of contaminants by precipitation. A more representative sample could be obtained from drill samples of the leach pads which are statistically representative of the volume of rock in the pads. Representative samples could be subjected to tests like the Synthetic Precipitation Leaching Procedure, EPA Method 1312, to obtain on estimate of the chemical quality of the discharge. From this information appropriate management strategies could be devised. The effects of various capping options could be demonstrated by use of HELP or other similar models to yield a conservative estimate of the quantity and chemical quality of leachate from the pads. To assure us that the discharge has minimal impact on ground water, estimated contaminant concentrations in the leachate should be below the Ground Water Quality Standards, and dissolved solids (TDS) content should be below the appropriate ground water protection level, as defined in the regulations, derived from background water quality at the mine's water supply well. If leachate contaminant concentrations are higher than these levels, appropriate closure plans or other management options should be developed to exclude precipitation from the leach pads and bring the discharge to *de minimis* levels.

The DWQ will take enforcement actions, if necessary, to insure our needs related to ground water protection are met, possibly in coordination with other agencies that have an interest. To avoid any enforcement actions on this matter you must submit a conceptual plan to investigate the chemical nature of leachate from the pads, and to devise appropriate management strategies, as soon as possible.

Please contact me if you have any questions.

Sincerely,

Mark T. Novak

Mark Novak, Environmental Scientist
Ground Water Protection Section

MN:wfm

cc: Dave Hartshorn, Drum Mine
Wayne Hedberg, DOGM
Central Utah Health Dept.
Rex Rowley, BLM Warm Springs RA

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FILE:JUMBO MINING